



# CITY OF LODI

## COUNCIL COMMUNICATION

**AGENDA TITLE:** Public Benefits Program Grant – St. Anne's School Demand-side Management Project (\$7,065.25)

**MEETING DATE:** July 19, 2000

**PREPARED BY:** Electric Utility Director

**RECOMMENDED ACTION:** That the City Council approve a Public Benefits Program grant in the amount of \$7,065.25 for St. Anne's School to partially fund a demand-side management project.

**BACKGROUND INFORMATION:** St. Anne's School, located at 200 S. Pleasant Avenue, has elected to pursue a demand-side management project during the summer of 2000. Specifically, representatives of the school have chosen to retrofit all existing lighting within the school (to include: hallways, restrooms, administrative offices, copy room, faculty lounge, library, kitchen, and all classrooms) to highly efficient lighting. The scope of work will include:

- removal of all existing lighting (in most areas- T12 lamps and magnetic ballasts);
- installation of T8 fluorescent lamps and electronic ballasts;
- installation of low wattage compact fluorescent lamps;
- installation of photo sensors for hallway lighting;
- retrofit and convert all EXIT signs from incandescent fixtures to highly efficient LED technology.

The Public Benefits Program grant in the amount of \$7,065.25 reflects a 25% match of the total cost of the lighting retrofit project at St. Anne's School. Currently, the school consumes on average, 68,452 kilowatt hours (kWh) of electricity per year. After completion of the retrofit, the school looks to save approximately 46,835 kWh per year, or a dollar savings of roughly \$5,500 annually. This is an excellent example of a demand-side management project, as identified through the City of Lodi Public Benefits Program, and national energy efficiency standards.

After numerous meetings and site visits, the City of Lodi Electric Utility respectfully recommends approval of this grant as a qualifying component of the City of Lodi Public Benefits Program.

**FUNDING:** 164605 – Public Benefits Program Fund - (Category - Demand-side Management)

**Funding Approval:** Vicky McAthie  
Vicky McAthie, Finance Director

Alan N. Vallow  
Alan N. Vallow  
Electric Utility Director

**APPROVED:** \_\_\_\_\_

H. Dixon Flynn  
H. Dixon Flynn - City Manager



# CITY OF LODI

## COUNCIL COMMUNICATION

**PREPARED BY:** Rob Lechner, Manager of Customer Programs

ANV/RL/lst

C: City Attorney

**NOTE:** A detailed scope of work, as performed by the City of Lodi Electric Utility and its energy services partner Energy Masters International, is available for review in the City Clerk's office.

**APPROVED:** \_\_\_\_\_

H. Dixon Flynn - City Manager



**St. Anne's School**  
200 S. Pleasant Ave. Lodi, CA 95240

July 7, 2000

Mr. Alan Vallow  
City of Lodi  
Electric Utilities Director  
1331 South Ham Lane  
Lodi, CA 95242

Re: St. Anne's School  
200 S Pleasant Ave Lodi, CA

Dear Alan:

St. Anne's School is requesting \$ 7,065.25 from the City of Lodi's Benefit Program grant fund. This will be utilized for a lighting retrofit at the school.

The retrofit will be done to minimize the consumption of energy resources and to ensure the comfort of our students and staff.

St. Anne's School has been established in Lodi since 1922, continuously graduating students who contribute to the Lodi Community. Presently we have an enrollment of 285 students.

St. Anne's School appreciates your consideration of this request. If you have any questions, please do not hesitate to contact me at (209) 333-7580.

Respectfully,

A handwritten signature in cursive script that reads "Dennis Taricco".

Dennis Taricco  
Principal

**Comprehensive Lighting Energy Analysis  
For:**

**School and Kindergarten Buildings**

***At:***

***St. Anne's Catholic School  
200 S. Pleasant Avenue  
Lodi, CA 95240***

May, 2000

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## ***SECTION I - EXECUTIVE SUMMARY***

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Energy Masters International Inc. (EMI) sincerely appreciates the opportunity to present this Comprehensive “energy efficiency” lighting proposal to St. Anne’s Catholic School for the feasibility and evaluation of a lighting energy and operational cost savings program for the **School and Kindergarten Buildings**.

This Comprehensive Energy Efficiency Analysis (CEA) provides St Anne’s Catholic School with the opportunity to address inefficient lighting conditions and describes cost saving recommendations associated with system improvements, upgrades and efficiencies. In this proposal we describe what the program can accomplish and present a cost-to-savings ratio analysis. This report is the result of days of on-site study and technical analyses and is reflective of our desire to deliver the most cost effective and state-of-the-art, yet reliable, energy operational solutions possible.

The following is included in the analysis: precise measurements of existing conditions, energy and operational efficiency measures, engineered specifications, and complete detailed cost-to-savings financial information. Project options will be presented with the City of Lodi Electric Utility Public Benefits Program.

### **Intelligent Approach to Energy Planning**

As the deregulation of the electric industry unfolds, a majority of energy users are striving to get their arms around their energy supply and demand side management plans. Media and industry attention on the electricity commodity market has caused many firms to scrutinize the operating efficiency of their energy consuming equipment. Further, regulation that has created utility competition has also created a pool of incentives to help customers install energy efficiency measures in their facilities. Simply put, the time has never been better to perform an energy systems upgrade. With a quarter century’s experience in the energy services business, Energy Masters is helping energy users across the U.S. to cut energy costs and improve the productivity of their facilities. With the “demand side” measures we are proposing, St. Anne’s Catholic School is poised to take a major step toward receiving the best value for its energy dollar.

### **Maximizing Available Utility Incentives**

Concurrent with the installation of the proposed energy efficiency program, The City of Lodi Electric Utility will dedicate rebate dollars directly to St. Anne’s Catholic School to completely fund the cost of the comprehensive in-depth engineering analysis and **apply incentive monies** that will buy down the cost of the project. The City of Lodi Electric Utility rebate program is developed and budgeted on an annual basis to assist it’s customers in becoming as technically and operationally efficient and productive as possible.

The goals of the St. Anne's Catholic School's Energy Efficiency program are simple, yet significant:

- ✓ **Reduce the Schools lighting energy, operating and maintenance costs.**
- ✓ **Provide students and staff with a more productive and comfortable learning environment.**
- ✓ **Upgrade or replace old or inefficient systems.**
- ✓ **Enhance or maintain safety and security levels.**

### **Engineered Recommendations**

*Lighting Upgrades and specific Electrical improvements;*

1. **Lighting** - Install "State-of the-Art" high efficiency lighting
2. **Electrical** - Make specific switching changes to (2) lighting fixtures in Dominican Hall and install (14) locking Thermostat covers

*Control;*

3. **Automatic Lighting Controls** - Install new automated occupancy motion sensor controls in specific areas

These measures represent an immediate means to reduce lighting energy consumption and will create an improved, more productive learning and work environment for students, staff and community use.

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## **SECTION II – FACILITY PROFILE**

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### **UTILITY EXPENSE HISTORY** **School and Kindergarten Building lighting**

The charts that follow analyze the Electric utility usage over the last year, as well as showing estimated future savings with implementation of the proposed lighting energy saving measures.

The average cost for electricity used in this analysis is given in the table below, and addresses those costs accrued for 1 calendar year.

<b>Utility</b>	<b>Usage</b>
Electric Usage	68,452 KWh
Electric Demand	N/A KW

The next table reviews the costs and average costs for utility usage over the same period of time as the table above.

<b>Utility</b>	<b>Cost</b>	<b>Average Cost</b>
Electric Usage	\$7,968	\$0.1164 KWh
Electric Demand	N/A	N/A KW

## **SECTION III – TECHNICAL ANALYSIS AND SCOPE OF WORK**

This section provides a description of the lighting energy savings measures we recommend. Please refer to "Section IV – Financial Summary" for a summary of the costs and associated savings for each of the program components.

Lighting Retrofit and Occupancy Controls Upgrades;

The following table illustrates EMI's recommendations for the lighting retrofit for the **School and Kindergarten buildings;**

**Main Building; Administration, Faculty Lounge, Dominican Hall & Kitchen,  
Library, Hallways, Classrooms, Rest Rooms, Kindergarten, Basement  
Storage**

Existing fixtures	Quantity	Retrofit
<b>4 lamp 4' T-12 fluorescent lamp, magnetic ballast</b>	<b>39</b>	<b>2 &amp; 4 lamp 4' T-8 lamp, Electronic ballast with occupancy motion sensors for selected areas</b>
<b>2 lamp 4' T-12 fluorescent lamp, magnetic ballast</b>	<b>142</b>	<b>2 lamp 4' T-8 lamp, Electronic Ballast with occupancy motion sensors for selected areas</b>
<b>2 lamp 8' T-12 fluorescent lamp, magnetic ballast</b>	<b>17</b>	<b>(6) New, 2 &amp; 4 lamp T-8, Electronic Ballast fixtures, Retrofit (10) 4 lamp 4' T-8 lamp, Electronic ballast with occupancy motion sensors for selected areas</b>
<b>100 watt incandescent</b>	<b>4</b>	<b>13 watt Compact Fluorescent spin in.</b>
<b>Exit Signs; twin 40 watt</b>	<b>2</b>	<b>3 watt LED</b>

The conversion of these lighting fixtures represents an excellent means to reduce energy costs, while concurrently increasing light levels and the quality of the light produced by the fixtures. Not only are these systems more energy efficient, but they produce light that creates a more natural, color-corrected work environment. The motion sensor/photo sensor controls will cycle electric lighting on an as-needed occupancy basis.

The proposed T8 fluorescent lamps have a 20,000 hour rated life with significantly less lumen depreciation over their life, more than double that of the existing T12 Fluorescent lighting system. The retrofit/conversion of the lighting system will result in less required attention from maintenance personnel, and will result in lower lighting maintenance costs. Additionally, the existing lighting replacement stock will be reduced as system types throughout the facilities are uniform.

In summary, the proposed lighting system retrofits will offer these benefits:

- ✓ Automated Area Controls
- ✓ Reduced energy consumption and electrical costs
- ✓ Reduced maintenance and replacement costs
- ✓ Extended equipment life
- ✓ Enhanced lighting system performance
- ✓ More comfortable learning and work environment
- ✓ Warranted trouble free operation

### **Trouble Free Service – Our Warranty**

Energy Masters International, Inc. and/or its subcontractor warrant the fluorescent lighting systems installed by Energy Masters International, Inc. and/or its subcontractor at Eagle Electric. The warranty provisions are as follows:

Fluorescent fixtures have a warranty period of ninety-days from the date installation is completed. Energy Masters International, Inc. and/or its subcontractor, will at no charge including labor, materials and workmanship, repair or replace any energy saving fluorescent lighting fixtures installed as specified in the scope of work contract that fail within a ninety day period. This includes fixtures, lamps, ballasts, end clips, and fixture wiring connections.

T-8 lamps have a manufacturers warranty of three years from the date of the installation. Energy Masters international, Inc. and/or its subcontractor, will at no charge including labor, materials and workmanship, repair or replace any energy saving T-8 lamps installed as specified in the scope of work contract that fail within the initial ninety day period. Should the lamps fail anytime after the initial ninety days of installation, the manufacturer will be responsible for lamp replacement.

Electronic Ballasts have a manufacturers warranty for five years from the date of installation. Energy Masters International, Inc. and or its subcontractor, will at no charge including labor, materials and workmanship, repair or replace any energy savings electronic ballasts installed as specified in the scope of work contract that fail within the initial ninety day period. Should the ballasts fail anytime after the initial ninety days of installation, the manufacturer will be responsible for ballast replacement.

This warranty covers only those fixtures, wiring and lighting components installed by Energy Masters International, Inc. and/or its subcontractor as specified in the installation contract, and is in addition to any manufacturer's expressed warranties on installed components. Should Nationwide Wire & Brush request additional warranty options, EMI will custom design warranties to meet Nationwide Wire & Brush's requirements and include additional warrantee costs in the project.

### **PCB Ballast Disposal**

All existing PCB ballasts will be removed and properly disposed of in compliance with appropriate laws and regulations. Disposal is included in project cost.

## **SECTION IV – FINANCIAL SUMMARY**

Energy Masters has performed a Lighting Energy Analysis at St. Anne's Catholic School buildings and has identified the lighting cost-effective energy saving opportunities which, when implemented, will result in significant utility and operational cost savings. Table 1 shows the existing utility costs, utility costs after the retrofit and the associated savings. This represents an estimated reduction in lighting electric utility cost of **68.4 %**.

**Table 1**

<b>Energy Savings Summary</b>	<b>Existing</b>	<b>After Retrofit</b>	<b>Savings</b>
Lighting Electric Usage (kWh)	68,452	21,617	46,835
Electric Demand (kW)	N/A	N/A	N/A
Lighting Electric Utility Costs (\$)	\$7,968	\$2,441	\$5,527

\* Additional operations and maintenance savings of \$300 per year is expected.

The Scope of work to be included in the Energy Efficiency Program represents a comprehensive package of lighting Energy Conservation Measures (ECMs) with cost effective financial paybacks.

### **PROJECT SUMMARY & SAVINGS**

The following summary reflects the annual savings and costs associated with the St. Anne's Catholic School building Lighting Energy Efficiency program. These measures offer significant energy reductions while meeting St. Anne's Catholic School's aggressive capital investment payback requirements.

**Table 2**

\*\*Included are operations and maintenance savings of \$300 per year for lighting.

<b>Energy Savings Measures</b>	<b>Building</b>	<b>Annual Electricity Savings (kWh)</b>	<b>Annual Cost Savings</b>	<b>Estimated Installation Cost</b>	<b>Simple Payback (Years)</b>
Lighting Improvements	School & Kindergarten	46,835	**\$5,827	\$28,261	4.85

**Table 3**

#### **WITH LODI ELECTRIC UTILITY 25% INCENTIVES**

<b>Energy Savings Measures</b>	<b>Building</b>	<b>Annual Electricity Savings (kWh)</b>	<b>Annual Cost Savings</b>	<b>Rebate 25%</b>	<b>Net Estimated Installation Cost</b>	<b>Simple Payback (Years)</b>
Lighting Improvements	School & Kindergarten	46,835	**\$5,827	\$7,065	\$21,196	3.63

RESOLUTION NO. 2000-127

A RESOLUTION OF THE LODI CITY COUNCIL AUTHORIZING THE CITY  
MANAGER TO PROVIDE A PUBLIC BENEFITS PROGRAM GRANT TO ST.  
ANNE'S SCHOOL

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WHEREAS, the State has mandated that beginning January 1, 1998, the City of Lodi is obligated to fund various programs through a Public Benefits Charge (PBC) based on a historical electric revenue requirement; and

WHEREAS, the requirement amounts to approximately \$1M per year that must be dedicated to qualifying programs such as energy efficiency. A further stipulation is that these efforts must be done on the customer's side of the meter in order to qualify; and

WHEREAS, St. Anne's School has elected to pursue a demand-side management project during the summer of 2000, by retrofitting all existing lighting within the school to include hallways, restrooms, administrative offices, copy room, faculty lounge, library, kitchen and all classrooms to highly efficient lighting. The scope of work will include:

- removal of all existing lighting (in most areas- T12 lamps and magnetic ballasts);
- installation of T8 fluorescent lamps and electronic ballasts;
- installation of low wattage compact fluorescent lamps;
- installation of photo sensors for hallway lighting;
- retrofit and convert all EXIT signs from incandescent fixtures to highly efficient LED technology.

WHEREAS, the Public Benefits Program grant in the amount of \$7,065.25 reflects a 25% match of the total cost of the lighting retrofit project at St. Anne's School. Currently, the school consumes on average, 68,452 kilowatt hours (kWh) of electricity per year. After completion of the retrofit, the school looks to save approximately 46,835 kWh per year, or a dollar savings of roughly \$5,500 annually. This is an excellent example of a demand-side management project, as identified through the City of Lodi Public Benefits Program, and national energy efficiency standards; and

WHEREAS, after numerous meetings and site visits, the City of Lodi Electric Utility respectfully recommends approval of this grant as a qualifying component of the City of Lodi Public Benefits Program.

NOW, THEREFORE, BE IT RESOLVED, that the Lodi City Council hereby authorizes the City Manager to provide a Public Benefits Grant in the amount of \$7,065.25 to St. Anne's School.

Dated: July 19, 2000

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I hereby certify that Resolution No. 2000-127 was passed and adopted by the Lodi City Council in a regular meeting held July 19, 2000 by the following vote:

AYES: COUNCIL MEMBERS – Hitchcock, Land, Nakanishi, Pennino and Mann (Mayor)

NOES: COUNCIL MEMBERS – None

ABSENT: COUNCIL MEMBERS – None

ABSTAIN: COUNCIL MEMBERS – None

  
SUSAN J. BLACKSTON  
City Clerk